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## (54) Signal processing apparatus and method

(57) An integrated digital communication system utilizing multilevel vestigial sideband transmission is provided. The communication system receives a multi-level pulse-amplitude modulated digital signal from a limited bandwidth channel. The system includes processing stages which demodulate, sample and filter the incoming signal prior to recovery of the digital data.

Other stages recover the timing and lock on to the frequency and phase of the transmitted signal, as well as provide for automatic gain control. An adaptive equalizer, error correction circuitry, and an output interface recover the digital data and provide for transfer to other devices.

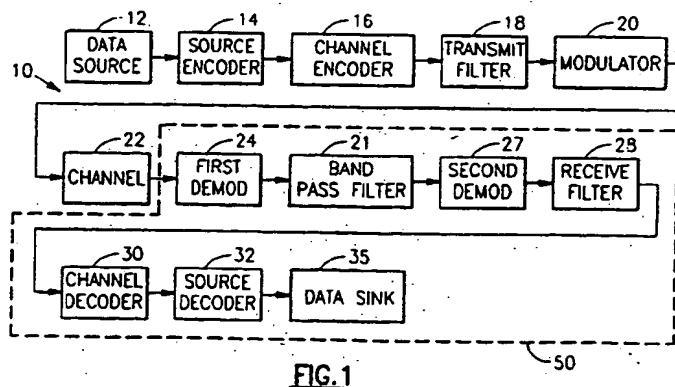


FIG. 1

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# EUROPEAN SEARCH REPORT

Application Number  
EP 96 30 1869

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Y	EP 0 624 033 A (PHILIPS') 9 November 1994 * column 9, line 50 - column 10, line 50 * * figure 5 *	1-6,8,10	H04N7/24 H04L27/06 H03M13/22 H04L7/033
Y	EP 0 639 914 A (MARTIN MARIETTA CORP) 22 February 1995 * page 4, line 31 - line 39 * * figure 3 *	1-6,8,10	H04N7/52 H04N7/60 H04Q11/02
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A	WO 94 26067 A (THOMSON) 10 November 1994 * page 9, line 11 - line 27 * * page 2, line 9 - line 12 *	6,10	
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<p>-----</p> <p>The present search report has been drawn up for</p>			
Place of search		Date of report	Examiner
THE HAGUE		9 December 1993	GHIGLIOTTI, L.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>1 : priority or provisional underlying the invention 2 : as the patent document, but published on, or after the filing date 3 : document cited in the application 4 : document cited for other reasons 5 : member of the same patent family, corresponding document</p>			

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